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THE ELEMENTARY SCHOOL TEACHER

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EDUCATIONAL NEWS AND EDITORIAL COMMENT

The Chicago University Dinner at the Meeting of the Department of Superintendence

In connection with the meeting of the Department of Superintendence in Philadelphia during the last week in February there will be a dinner of the former students and graduates of the University of Chicago. Placards will be posted announcing the exact time and place of this dinner. The dinner will occur on Wednesday evening. It will be the third annual event of this type. The dinner originated in imitation of the example of Teachers College which has for a number of years had a reunion of its former students and graduates at this time. The dinner of Teachers College is held on Tuesdays so that no conflict is possible between the two gatherings. All who read this notice are requested to spread the information so that the attendance at these dinners may be as large as possible.

Investigation of the School System

The Portland, Ore., public-school system is to be investigated under the direction of a special committee of five taxpayers appointed at a recent meeting. This committee is to employ educational and financial experts and is to make a report of its findings to the Board of Education. The committee was created at the annual meeting of taxpayers of school district No. 1. An appropriation of $7,500 was made to meet the necessary expenses of the investigation. In providing for the investigation, attention was called to the fact that the disbursement of funds had increased six times in the course of

the last ten years. This large increase in expenditures seemed to the citizens of the district to justify a careful inquiry into the efficiency of the school system. The author of the resolution providing for the inquiry stated, however, that he wished to repudiate the statement made at the meeting that the resolution was intended to reflect upon the school management. The resolution merely expresses, he asserts, the conviction of its supporters that evidence of the efficiency of the school system should be presented to those who provide the funds for the maintenance of schools.

This new example of the eagerness of taxpayers to know something about the efficiency of their school system draws the attention of teachers and school officers once more to the importance of preparing to show the efficiency of their schools before the question is raised by outside agencies.

In contrast with the initiation of an inquiry by taxpayers is the example of Boise, Idaho. In that city an investigation was recently made at the invitation of the Board of Education and Superintendent by three educational experts, with the result that the school system was shown to be in sound condition in both its financial and educational organization. A number of suggestions were offered in the report of the experts, which, if accepted, will make for enlargement of the work of the school. It will probably be easier for the Board to secure these enlargements from the community because of the co-operation of those who were drawn in from the outside to consider the educational problems of the city. The taxpayers in Boise have cheerfully contributed large amounts to the maintenance of their schools. The Board of Education is undoubtedly wise in anticipating the demand of these taxpayers for evidence that the school system is doing its work efficiently.

These and other examples teach one further lesson. There ought to be some organized agencies for the examination of school systems. Committees of taxpayers and even boards of education find it difficult to secure proper co-operation from educational experts in the conduct of such examinations. If an authoritative group of experts could be organized it would make investigations of this type very much simpler to conduct and in the long run very much more productive of benefit to the school systems.

The Public Education Association of the City of New York

This association is made up of the citizens of New York and its immediate environs. The association employs a permanent secretary, and collects funds with which it undertakes different kinds of activity. *Bulletin No. 7*, recently issued, sets forth the different types of activity which this association will carry on during the coming year. First, it seeks to give a full and fair hearing to the report of the School Inquiry Committee. Second, it carries on continuously investigations which throw light upon the school budget. Third, it co-operates, whenever the opportunity offers, with the public authorities. For example, two years ago, when a proposition was made for a radical revision of the New York City charter, especially that chapter dealing with the school system, this association collected and distributed a great body of information which led to the abandonment of the revision which had been projected by the mayor and others. Fourth, the association keeps a man who is technically trained in the field to study the problem of compulsory education. Fifth, it makes a study of the problem of vocational training. Last year a survey was made of the school children of two districts to find out what occupations those children entered who left school to go to work. Other related problems are also studied under this general head. Sixth, the association employed last year a trained investigator who worked with the department of ungraded classes investigating cases of mental defectives in the school. This work is directly associated with the seventh line of work, in which the association co-operates with the departments of health and charities to secure proper hygienic and moral conditions for the children in the public schools. Eighth, the association employs nine visiting teachers who carry on their work in thirteen schools. These visiting teachers deal with the cases of children who do not measure up to the school standards, but who are not truant or defective. The work of these visiting teachers is of such importance that a large number of principals in the public schools have requested that teachers be sent to their districts. Ninth, the association conducts a school for boys in the Tombs Prison. Finally, the association has established a bureau which will furnish information with regard to educational matters

to anyone in the country who asks for such information. Students of education in all parts of the country, and school officers are at liberty to take advantage of this co-operation if they wish to learn anything about the school system of New York City.

This example of public voluntary co-operation with the school system indicates the large interest which the public feels in educational matters. While the activities of this association are more varied than could be the activities of a smaller association, there is no reason why this New York example should not be followed in smaller centers throughout the United States. A careful investigation of school conditions would make it clear that in every quarter some additional activities can advantageously be taken up by co-operating organizations.

Home Study

So long as the critics of the schools deal with general matters such as the course of study and the efficiency of school discipline, they are not likely to excite either the parents who are fairly well satisfied or the teachers who know that the schools are doing good work. To be sure, there break out from time to time local storms of protest either against the new subjects, which are then designated fads, or against the old subjects, which are regarded by some as so antiquated that they ought not to be permitted. But these local storms attract little attention.

When some critic of the school system leaves these more general problems and begins to deal with the problem of home study, principals and teachers are sure to hear from interested fathers and mothers, especially from those who agree with the critics that there ought to be no home study. During the last month the newspapers have quoted freely from the recent discussions of home study in the *Ladies Home Journal*, and have expressed various opinions on the matter. It will be interesting to see how this matter is dealt with in some of the different discussions.

Thus one ex-superintendent of schools in a large eastern city is quoted by the press of Cleveland, Ohio, as saying that "little children ought never to be permitted to have home study interfere with their play." The superintendent of schools in this same city is quoted as making the following statement: "There should be

no home study in any of the lower grades. However, in the upper grades it is better that a little home work be begun to prepare the child for the high school and independent work. It is out of the question to have no home work in the high school."

The *Times* of Oklahoma City, Okla., has the following editorial:

> The schools are now closed for the Christmas holidays. There would be a tremendous jolt felt by the whole futile system if, before the schools open again after the holidays, each father would convince himself of the wisdom of having his child's lessons end with school hours, just as his own business ends with office hours; in other words, that there should be no books brought home; no lessons studied in the evening. Of the physical and mental folly of evening study by a child every parent can easily satisfy himself.

In the *Daily Herald* of Quincy, Ill., there is a somewhat different expression of opinion quoted from the superintendent with approval:

> It is clearly the teacher's duty to train children how to use books, how to acquire facts therefrom, and how to do school work efficiently and successfully. It is not the duty of fathers and mothers to teach their children at night for the purpose of getting them ready to recite their lessons the next day. I am opposed to any practice of so-called home work that will interfere with the child's recreation and full quota of sleep. However, I am not ready to assent that a certain amount of voluntary, judicious home work "flattens everything out into a dead level of listlessness". . . . I am not ready to concede that all home work is a waste of time and energy, and that its complete abolition is a requisite to the improvement in the education of children. I believe there is a tendency on the part of many to exaggerate the amount of home work, etc.

From other centers one might quote the opinions of physicians who have been brought into the discussion by parents or school authorities. These physicians are variously of the opinion that school work is damaging, and that school work is necessary in order to train children. Some physicians believe that home work is sure to produce all of the ills of life, while others believe that evenings can very profitably be filled by some regular work assigned by the school.

The whole matter is certainly one of great importance to school officers and parents. The time will never come when legitimate exercise of one's mental powers is not desirable after school has closed. What the exact form of this mental exercise shall be

remains to be determined by wisely directed experiment. There can be no doubt at all that the mistake has sometimes been made of requiring too much work. Sometimes the school has committed the more reprehensible mistake of requiring pupils to work out tasks for which they were not prepared. Anyone who attempts, on the basis of either one of these general charges, to make a universal statement that there shall or shall not be home study fails to recognize the real educational problem. The real educational problem is so to organize the home work of the child that it shall be productive and wholesome. Moreover, this home work should be so organized that there shall be co-operation between the home and the school. There can be no doubt at all that some children work more rapidly than others. The school cannot equalize the rate at which children move by throwing the responsibility upon the home for leveling up the work of the slow child with that of the fast child. The school must co-operate with the home in differentiating the children. In short, this problem involves all the problems of school administration and classification. The school which is called upon to do its work without any outside preparation will undoubtedly be demanding very shortly that its time be extended so that it may adequately fulfil the serious obligations which it is assuming. If individual administrators and teachers need support in the face of the public criticisms which have been scattered about very freely during the last few months, this is perhaps the strongest statement that can be made of their side of the case. The complicated problem of transmitting modern civilization cannot be solved in the short hours which are now devoted to actual school exercises. If parents object to home study, a complete reorganization of the school day and the school year is required and would be welcomed by educational officers. This would mean more and better equipment of schools and an increase in the teaching staff.

Credit for Home Work

Attention was called some months ago to the fact that the state superintendent in Missouri had arranged to recognize in the schools work done at home. A blank was to be filled out by the parents indicating the different kinds of activities of the child at home, together with some statement as to the quality of this work. This blank was to be received and

signed by the teacher in the same way that the teacher's report is received and signed by the parent. There now comes from the Bureau of Education at Washington a statement to the effect that the same practice is being adopted on an extensive scale in Oregon. A number of home activities, such as building fires, milking the cow, splitting and carrying wood, dusting furniture, making beds, sewing, etc., are enumerated as the types for which credit will be given. "The work is definitely measured and allowed for. The child desiring credit for home tasks brings to school a slip signed by the parent testifying to what he has done. Ten per cent is added to the general examination result of all pupils who enter and continue in the voluntary contest to see which can obtain the most of such credits. This experiment has been tried with satisfactory results at one point in the state and is now attracting the attention of all the county superintendents."

Adjustment of the Elementary Course to Individual Pupils

At a meeting of the New York State Council of Elementary School Principals and Teachers, held during the recent holiday week, Principal L. V. Arnold of Amsterdam, N.Y., outlined a plan of organization which is followed in that city. There are two parallel courses, one a seven-year and the other an eight-year course. The distribution of students between these two courses is made at the end of the first year. By making this division between the students, one group can be carried forward much more rapidly than the other. The result is that at the end of two and one-half years the pupils in the seven-year course are doing the same work that those in the eight-year course do at the end of the third year. Transfers are made between the two divisions as occasion may demand. The arrangement keeps all of the pupils working at the maximum of their ability, and in many cases saves a year or more of the child's time as he progresses through the school. This plan is of special interest because it concentrates attention upon the possibility of saving time in the elementary school in the early part of the course. Teacher and parent alike are likely to overlook this possibility. The child is supposed to be progressing satisfactorily if he keeps up with his grade and the rate at which the grade is progressing is less thought of than it is

later. In the later years of the school course when the child is ready to leave school or be advanced into a higher school the question of economy comes acutely to the consciousness of school officers and parents. If the general principles of efficiency and economy can be put into operation in such a way that the lower grades will contribute their full share to the education of the children, economies in the later years of the elementary school would be much more easily effected and would probably be less urgently demanded.

Educating Miners

Notice has been sent out by the Bureau of Education at Washington calling attention to the experiment which is being made at Ellsworth and Cokeburg, Pa., in the development of special courses of education in the schools for children who are sure to spend their lives in the mining industry. Mr. E. E. Bach has been employed by the mining companies as "sociological superintendent." He is preparing courses in elementary mining, first aid to the injured, and business forms. These courses are introduced as early as the sixth grade so that boys may be encouraged to remain in school. The girls are given courses in domestic science and other lines of work appropriate to home-making. The traditional school subjects are being modified so as to correlate with this vocational demand.

In Germany educators have long seen the importance of training the children in each community to be efficient in the industries of that community. This special experiment, therefore, has the justification of successful experience in Germany behind it. The special modification in the traditional courses undoubtedly will require much ingenuity and experimentation to perfect it. The statements which are made in the notice from the Bureau of Education would seem to indicate that the adjustments in these courses have not as yet gone very far. Thus it is reported that spelling lessons contain words taken from the state mining law, and English exercises deal with mining life. In all probability these relatively direct adaptations of the course to the interests of the community will later be supplemented by more radical adjustments of the course.

Corporal Punishment

A recent court decision in Texas justifies a school teacher in administering corporal punishment. The teacher in this case was charged with assault and battery. The matter was investigated by the Board of Trustees and the trustees sustained the teacher in her action. The court now holds that the evidence is in favor of the teacher. This adds another to the long list of court decisions which constitute interesting reading for the school administrator and for the teacher.

Several speakers at educational gatherings have recently called attention to the importance of a careful consideration of the whole matter of corporal punishment. Professor Elliott, speaking before a number of associations, has reviewed the history of corporal punishment in the schools, reminding his hearers of the universal practice of the earlier schools in using the rod as an instrument of education. Professor Meeker, of Princeton, has expressed himself as distinctly in favor of the use of corporal punishment on occasion as an instrument of school discipline. In New York City, where the regulations of the Board of Education prohibit the use of corporal punishment, there have arisen grave doubts in the minds of many principals and observers of the schools whether it will not be necessary in the near future to restore corporal punishment as a means of discipline. Indeed, it is understood that among the recommendations of the committee of inquiry there will probably be reference made to the lack of control which is exhibited in some of the New York schools and the absolute necessity of re-establishing this control through vigorous means of punishment.

Suggestions for an Improved School Seating

The medical inspector of the schools in Kansas City, Mo., calls attention to the familiar fact that the conventional school desk is in need of modification in order to produce a proper posture during sitting and studying. He suggests a chair which shall have in front of it a desk that slopes in such a way as to hold a book in front of the pupil who is reading or studying in the position in which it is usually held and at the level of the eyes. The present flat desk which lies before the pupil as he works evidently needs to be modified for a good many school activities. The problem of storing

books and other material which is solved in the ordinary school desk by a drawer in front of the pupil is being solved in the newer experiments in school seating by placing a drawer under the seat of the chair. This makes difficult the adjustment of the seat in height, but removes the desk from in front of the child where it is not needed for most of the activities of the school.

Public Interest in Vocational Education

No better evidence can be given of the public interest in educational problems than the large amount of newspaper space which is being devoted to the discussion of industrial education and its effects upon the general work of the school. The *Chicago Tribune* has been conducting during the past month a series of articles on industrial schools and their relation to the general school system. The Illinois legislature will be called upon during its present session to provide for industrial education throughout the state. In order that the opinion of all classes in regard to the best type of education may be secured, the *Tribune* has secured statements from professional educators, business men, philanthropic workers, and labor leaders.

There have been presented in these articles strong arguments in behalf of better child-labor legislation. There have been various suggestions for reforms in the elementary school. There have been pleas for prevocational courses and citations of the facts which make it clear that vocational education is necessary. It is hardly necessary to review all of these matters which are well understood by educational readers. One statement which is characteristic of a type of thinker not always heard in educational discussions may be singled out for special reference. It is the statement which was made by Mr. Edwin R. Wright on December 29. Mr. Wright is the president of the Illinois Federation of Labor and his statement presents in a very vivid way the attitude of a labor leader on the whole problem of education. He says:

> The worker demands industrial education. . . . . The present agitation is not the work of enthusiastic schoolmasters or of long-haired altruists. It is not even new. The great correspondence schools are not philanthropic but business institutions. For years the worker has striven to help himself to a

better understanding of his craft and to a higher wage. He desires to master the calling he expects to follow as his life-work. He knows he never will as an individual own the factory or shop or mine in which he works, but he may become foreman or even superintendent, and he is willing to work for the position.

There is much in the article which is of no immediate significance to the school officer; but a clear expression of skepticism with regard to the efficiency of present school organization appears in such passages as the following:

If I stopped here I would be classed as a common scold or a wooden-headed labor skate, but I don't propose to stop before I present the larger view generally held by the workers and try to carry their ideas to a more fitting conclusion.

Education is out of joint. We know it, and judging from the columns of space given the subject just now nearly everyone has a remedy of some kind. After 600 words of assorted gibberish, a writer in New York informs the readers of a downstate paper that the schools of Illinois are ideal. He is a schoolbook man. For him the schools are ideal.

Everything of any value must be paid for. We workers expect to pay for vocational schools, but from now on we want better value for our money. We are losing faith in politician, business man, and schoolmaster. Here in Illinois we pay a dollar a week for every child in school. Other states have just as good schools for much less money. Why so, Mr. Politician?

Without continuing to quote from this article of Mr. Wright's we may conclude that these paragraphs furnish evidence of the general interest of everyone in the problem of school efficiency.

School of Industrial Arts, of Trenton, N.J.

The school of industrial arts of Trenton, N.J., is supported jointly by the state of New Jersey and the city of Trenton. Its purpose is to provide instruction for students of all ages and interests and its aim is to develop and improve the industries of the state through the training of skilled laborers in all branches of industrial art. The school offers 46 separate courses of study. These courses are conducted during the day and in the evening so as to be accessible to workers in the factories and shops in the city as well as to students who devote their whole time to study.

The institution began in the evening mechanical drawing school conducted by Joseph Crampton for ten years previous to 1898.

This evening mechanical drawing school was supported by the Board of Education. In 1897 the mayor of Trenton appointed a committee to consider plans for the enlargement of this class into an art school. On April 4, 1898, the school was opened on its present general plan. It has at the present time a large independent equipment and the variety of its courses can be seen from the following selected titles taken from its catalogue. Courses are given in: free-hand drawing, figure composition, costume designing, bookbinding, mechanical drawing, pottery painting, architectural drawing, general chemistry, applied electricity, English, millinery, applied physics, domestic art, etc.

By a combination with the State Normal School situated at Trenton, normal courses are offered to those who wish to become teachers in schools. Through this combination the school is able to issue a certificate which will be recognized by the state department of education.

CONTROL OF THE INDUSTRIAL SCHOOLS OF GERMANY

F. W. ROMAN
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The direction and government of industrial education in Germany does not come under the jurisdiction of the empire, but is left to the several states. Nevertheless, indirectly, imperial legislation has had a great influence in forwarding industrial education (Lexis, *Das technische Unterrichtswesen*, pp. 17–25).

The main point of this imperial legislation lies in Section 120 of the *Reichsgewerbeordnung*, which provides that the school districts or communes *may* compel boys under the age of eighteen years to attend an industrial or commercial school. The same provision may be made to apply to girls of the same age, if they are engaged in commerical or clerical work. Parents who refuse to send the children are subject to a fine. Attendance upon a guild school or other continuation school will not free the pupil from attending the school established under this law, unless the instruction given has been sanctioned as at least equal in grade and quantity to that in the regular school. Employers are obliged to give workers under eighteen years of age the necessary time to attend such schools.

Most states have additional legislation which is much more comprehensive and mandatory than the above-mentioned *Reichsgewerbeordnung*.

The question, What authority shall control these schools? has been variously answered. The table on the following page shows the departments that now control in the states named.

We see that the three states, Prussia, Saxony, and Hessen, have a dual school organization, that is, the public schools are under a different state department from the ones indicated in the table.

[1] In view of the discussions which are going on in the United States of the methods of organizing industrial education Mr. Roman's discussion is very timely. Professor Roman is an economist and sociologist and recently completed at the University of Berlin an exhaustive study of German industrial schools.—EDITOR.

The other three, Bavaria, Würtemberg, and Baden, have put the trade schools in charge of the state department of education, which also controls the public schools.

State	Department of the State	Division of This Department	Local Control
Prussia	Ministry of Commerce and Industry	Permanent Commission of Industrial Education	Trade-school director
Bavaria	Ministry of Schools and Churches	.....	Directors of the higher schools and district-school inspectors
Saxony	Ministry of Interior	.....	Trade-school inspector
Würtemberg	Ministry of Education	Commission of Industrial Education	.....
Baden	Ministry of Education	Trade-school supervisor	Trade-school inspector
Hessen	Ministry of Interior	Trade Bureau	Trade-school inspector

In Würtemberg, the commission which has local control of the industrial schools must always have the director of the public schools as one of its members, and that means that he practically controls both trade and public schools. As director of the public schools, he has a life-position, and consequently a permanent place on the trade-school commission.

In Baden, the arrangement is very much the same.

In Bavaria, the director of the high schools and the district-school inspector have direct charge of the industrial schools. This accounts for the fact that Dr. Kerschensteiner has been able to bring Munich to the front in trade-school development. Being in charge of both the public schools and the trade schools, he has been able to do a great deal in the public school which prepares the pupils for their future trade-school work. There has been no time wasted in having two types of schools fighting each other.

So far as any one city comes into consideration, Munich leads all Germany in its trade-school development, both in efficiency and

in the number of boys and girls reached by the system. Munich is a great argument for a united school system!

So far as whole states come into consideration, Würtemberg and Baden lead. They were the first to develop such schools, and are still leading in efficiency of organization, number of boys and girls in attendance per capita population, and also in amount of money spent. It seemed to me the Germans were quite unanimous in this conclusion. This again is due in no small degree to the united action for which the school organization provides.

In Prussia, we find a unique situation which must be changed before decided advancement can be made in further trade-school development. The Ministry for Schools and Churches which controls the public schools is always headed by a theologian, that is, a man who has gone through a theological seminary, and has had long experience as pastor and officer in church circles. For this reason the public-school system is very conservative in all that it teaches. Religion as a study in the curriculum is strictly insisted upon for one hour per day throughout the school course.

In 1884 the industrial schools of Prussia were transferred from the Ministry of Schools and Churches to the Ministry of Commerce and Industry. This move represented one of Bismarck's successful efforts to get something completely out of the hands of the clergy, with whom he usually quarreled. Industrial education has made some great strides since the establishment of the dual organization, but only in so far as it has been possible to develop under the legislation which was in force at the time of separation. The dropping of religion from the curriculum, and the emphasizing of the practical rather than the "bookish" studies offended the clerical party. This, in turn, has resulted in a constant warfare between the two factions ever since. Up to the present time Prussia has not been able to get legislation making industrial education compulsory except for the provinces of West Prussia and Posen. The two parties cannot agree on the question of religion. Both parties want to make attendance compulsory from the ages of fourteen to seventeen. The clerical party wants a guaranty that one hour per week shall be given over to their hands for religious instruction. The other party claims that religious teaching has

no place in a trade school. As it is now, only the districts or communes can make attendance compulsory. The result is that for the most part Prussia has only voluntary trade-school attendance.

Is it desirable to have the dual organization which now exists in Prussia? Does specialization of work and aims justify a separate trade school board? Herr Director Haese of the Charlottenburg-Berlin trade schools, and Herr Director Haumann of the Berlin trade schools gave answers to these questions, which may be considered typical of the opinion of numbers of teachers whom I interviewed.

Under normal conditions a dual organization would not be the best. However, for Prussia, both men favored the separation, but both made it quite clear that they favored separation only because it keeps them out of the control of the clergy and makes it possible to use the hour formerly devoted to religion to some trade or literary study. By continuing the fight long enough, they hope to get compulsory trade education for Prussia without being dominated by the influence of the clergy.

Both stated emphatically that as far as trade-school efficiency itself is concerned, it would be better to have but one board of control. Two public-school systems in the same city create jealousy. This divides the interests of the people, since much energy which ought to be used constructively is constantly being wasted in dealing with controversial matters. A dual organization tends to create a feeling of class division in society, thus undermining democracy. There is a lack of co-operation between the schools while a united system could do much in the grades toward paving the way for trade schools. Teachers in the public schools which are under the control of the clergy, and teachers in the trade schools which are under domination hostile to the clergy, find themselves in a relation which makes co-operation difficult or impossible. If there were only one organization, the same plant could be utilized to much better advantage. A certain amount of the trade-school work must necessarily be done in the evening, the day-school teachers must be employed to some extent, because it is not always possible to get two full corps of teachers. This renders it necessary

for the trade-school board to make terms with the day-school board. There is always more or less trouble growing out of these arrangements. The day-school teachers who teach in the evening trade schools are under two boards and this proves to be a constant source of trouble. The present type of organization is unnecessarily expensive, because there are duplications in the work as well as in equipment. Even the officers have to be duplicated. Thus there are two directors' salaries to be paid. One such officer could often do the work more efficiently for the community than it is being done by two directors.

A SEVEN-YEAR ELEMENTARY SCHOOL

OFFICERS OF THE SCHOOL OF EDUCATION
University of Chicago

The Elementary School of the University of Chicago has been working for some years on the problem of saving the time of the pupils so that they may enter the High School at an earlier period than has been the custom in the regular eight-year course which has up to this time been administered in this school. It is evident to all students of education that in one way or another time is wasted, or at least not as well spent as it might be. Teachers realizing that they have more time than is required to cover a given amount of work relax somewhat in their instruction and the class is less well instructed than it might be. Lack of activity on the part of the pupils is then interpreted as due to the difficulty of the course and further reduction of the requirements follows until the rate of intellectual movement in the upper grades is distinctly slow. This manifests itself in many schools in an error which everyone tries to avoid but is likely to fall into either in the elementary school or in the first year of high school, namely the error of excessive reviewing. In the case of the University schools there was undoubtedly repetition in several of the high-school courses of matter and methods which had been adequately taken up in the elementary schools. In some other schools excessive reviewing appears in the seventh grade. This reviewing is repeated in the early part of the eighth grade, and the latter half of the eighth grade is very commonly given over to a general review of the work that has been done in the elementary school, in preparation for the high school. All this reviewing, even where it has been consciously carried out, seems to be regarded as ineffective, for as soon as the student enters the high school, he finds himself dealing, as indicated above, in many of the subjects, with materials and methods which he has canvassed before in the elementary school. The natural result of such repetition is that

the student manifests no interest in the work that is offered to him in the first year of the high school because he has already become acquainted with it in the upper grades of the grammar school.

If it is urged that this reviewing is necessary on the principle that the elementary work must be done with great care so as to avoid any possibility of failure in the high school, there is double reason for the contention that the high school must recognize exactly what has been accomplished in the elementary grades, and the teachers in the high school ought to be called upon to take advantage immediately of all of the preparation which the children have for advanced work. The fact is, however, that high schools and elementary schools very often have little or no articulation. For example, a committee of the National Council of English Teachers declared the problem of relating elementary English to high-school English to be a new and unsolved problem. It is evident to the student of education that in most schools students bear the burden of maladjustment in these matters. The elementary school is overanxious and overburdened with strict supervision, while the high school is neglectful of its duties. The student is made to repeat unnecessarily and is left in a bewildered state of mind because the teachers have not worked out an adjustment.

It was the belief that the school could work out the relation more efficiently that prompted the University schools to attack the problem of economy. Teachers in the High School were called into conference with the teachers in the later years of the Elementary School, and the matter of each of the different subjects was canvassed in detail in order to find out exactly what was being done in the seventh grade and in the eighth grade and in the first year of the High School, and how far all the different lines of work were interrelated.

It should be noted perhaps at the outset that the program of the Elementary School is somewhat fuller than the ordinary program in public schools of elementary grade. For example, all of the children of the University Elementary School take one foreign language beginning with the fourth or fifth grade. The result is that each pupil arrives at the eighth grade with some

speaking knowledge of either French or German, according as he may have elected to take the one language or the other during his elementary course. Furthermore, it may be pointed out that the Elementary School gives a good deal of attention to nature-study. Work in the garden alternates with studies in physics, hygiene, general zoölogy, and botany. This type of work is cultivated to a degree unusual in elementary schools. In like fashion, a good deal of emphasis is laid on the cultivation of skill through manual arts and the development of knowledge of the industries. Sewing, weaving, and constructive work are taught in the lower grades; the girls are given more complete courses in sewing in the upper grades, while the boys take shopwork; both boys and girls take printing in the upper grades. In short, the effort to economize time is not to be confused with any effort to reduce the elementary course to its lowest possible terms in point of content. The undertaking is to be described rather by saying that the school is organized to include all that can legitimately be included in an elementary education. Its full content is then to be administered in such a way as to save as much time as can be saved by the best possible organization. It should be explicitly noted, therefore, that the reduction of time involves no curtailment of the various extra lines of work. The work in foreign language, in science, and in handwork is recognized as altogether as important as other lines of work in the school; and it was understood from the outset that if the reduction of time was to be legitimately made, it must be made in such a way as not to jeopardize the interests of these special subjects. The whole attention of the school was concentrated upon the problem of a more effective correlation of the two schools without depriving the students of anything.

The type of economy which it was the aim of the school to secure can best be illustrated by referring to the various subjects of instruction. Thus, the High-School teachers did not find it easily possible to take advantage of the training which had been given in the Elementary School in modern languages. The German teachers and the French teachers of the High School held that the kind of work which had been done in the Elementary School did not correspond exactly to the work that had been done in the High

School in the first-year course. They found therefore that students who came from the Elementary School could not be admitted to the second year of the High-School classes without interfering in some degree with the ordinary organization of the courses. The organization was therefore inhospitable to the child. The pupil had done such work as was required of him, but little or no recognition could be given to the elementary work by the High-School departments because their organization did not connect directly with the elementary work. A second example of failure to articulate appears in the science work. For a long time the students from the Elementary School were put into the same kind of science work as children who came to the High School from elementary schools where less attention had been given to science. Again, elementary manual training was given in the High School and was required of all, including those who had done similar work in the University Elementary School.

It would have been altogether disastrous to the organization of the two schools to have made any sudden move. In the first place, the teachers who would have been involved in any such sudden arrangement would not have had time to adjust their work, and the children would have experienced the ill effects of an experiment for which the teaching corps had relatively little sympathy. The first step therefore was to bring together the various members of different departments, and to establish relations which would make it easily possible for the High-School teachers and the Elementary-School teachers to look at the problem from the same point of view. For example, the modern-language teachers were called upon to examine each other's work and to suggest any modifications that were necessary in order to allow the children to pass directly from the elementary work into the advanced stages of the work in the High School. Indeed, certain forms of organization were undertaken to make this transition easy. It was said, for example, that children who come from the Elementary School are somewhat less mature than the children who have passed through the first year of high school. For two years, therefore, the children who came from the Elementary School, and had taken a good deal of German, have been allowed to do a small

amount of German during the first year of the High School until they should obtain the maturity supposed to be necessary in order to make it possible for them to stand on an exact equality with the students in the second year of the High School. This compromise organization is on the whole not very satisfactory, but it furnishes a method of passing without shock from the general inco-ordination with which the organization started to the final arrangement in which it hoped the adjustment will be complete. In the meantime the teacher of the Elementary School has been called upon to give some of the work in the first year of the High School, and modifications have gradually been made in the work of both the Elementary School and the first year of the High School until there seems to be reasonable promise of a complete co-ordination.

The English departments of the two schools were asked to meet together and to canvass in detail all of the work given in the eighth grade and the work given in the first year of the High School. This careful study of the problem very soon brought out the result that both schools were dealing with the same type of material, and in much the same fashion. Only very slight modifications were necessary in order to justify the promotion of the children who had done the work of the eighth grade in the Elementary School directly into the second year of the High School. This promotion into the second year of the High School avoided all of the repetitions that had formerly been committed in the first year of the High School.

So far as science was concerned, it was very simple to allow the children from the Elementary School to omit the first-year science course. In the University High School this first-year science course is a general course dealing with phenomena that are at once physical and biological. The problem of giving credit for this science course is perhaps not as simple as the problem of giving credit in the other departments, but the permission, indeed the requirement, to omit the first year of science in the High School has been put into full operation.

The discussion of manual training led to a modification of the course as administered in the High School, so that now elementary handwork is not required of first-year children who have had

such work in the Elementary School. This readjustment is generally advantageous, because not only the University Elementary School, but many other schools also, are introducing enough handwork to justify a somewhat more advanced type of work when the pupils enter the first year of the High School.

The problem of mathematics was somewhat more complicated. The traditional division between arithmetic and algebra, which marks the boundary line between the elementary and the high school, is not so easy to transcend. There can be very little doubt to the mind of the careful observer that this traditional division is not justified by the needs of pupils. A great deal of the work that is done in arithmetic in the Elementary School in the later years is valuable merely because it presents complicated opportunities for developing reasoning processes in the children. As a training in mathematics these problems are of very doubtful value. They involve only the relatively simpler mathematical processes, and these mathematical processes are imbedded in a situation which must be visualized and disentangled before the student can properly apply what he knows about arithmetical operations. It would be very much more educative, in many cases, to solve these complicated problems that are given in arithmetic by algebraical formulas. For example, if a symbol of the unknown quantity could be employed in the calculations, the method of solving the problem would be better from the point of view of the child's development. If the principles of solving the equation were understood, the solution of many an arithmetical problem would be rendered very easy. Yet there is a strong tradition against the introduction of the unknown quantity and the simpler methods of solving equations into the elementary-school course. From time to time algebra has been taught in the upper grades of some elementary school only to be timidly dropped because of the anxiety of someone about the traditions of elementary education. In spite of reason the high school has accordingly kept its hold on algebra and its methods. In the same way, geometry has traditionally been the property of the high school. Little by little the elementary school has been introducing certain constructive problems which deal with the simpler properties of space, but

even here it has not been regarded as heretical to call such work by the name of geometry because geometry has always been given as a high-school course.

The experiment in the University Elementary School proceeded therefore very cautiously in this matter of mathematics. The mathematical work usually required of the eighth grade was completed in due form. Last year, with an eighth grade that had advanced well in matters mathematical, a certain amount of high-school work was tentatively undertaken, and it was found that the eighth grade could take, in addition to its regular arithmetic, approximately half a year of high-school work in algebra and geometry. It should be said that the mathematical course given in the University High School consists of certain algebraical and geometrical problems which are worked out together. Exactly the same course was followed with the eighth grade. In order to corroborate the judgment of the instructors that the eighth grade had done the work satisfactorily, a test prepared by the High-School department was given at the end of the half-year course. This test was just the same as the test which was administered at the same stage to the classes in the High School; furthermore the papers were graded by the instructors in the High School, and the eighth-grade children succeeded in the tests fully as well as the High-School children had succeeded. There was a good deal of enthusiasm in the class for the work, and the general result upon the children of the whole experiment has been very gratifying. They have been willing to work, and they have shown enthusiasm about the progress which has interested their instructors as well as themselves. They have gone on in the High School this year with unabated success.

This year's eighth-grade class is doing from the first practically high-school mathematics, with the result that at the end of this year the present eighth grade will have, instead of half a year's mathematics to its credit, practically all of the first-year high-school work.

Such an adjustment as has been described in mathematics is not altogether satisfactory. The changes ought to be made farther down in the elementary course, and it is hoped that the

work may proceed from this point in such fashion that in the sixth and seventh grades certain mathematical formulas that have always been given in algebra shall be gradually introduced. The use of co-ordinate paper and co-ordinate sections on the blackboard has long been common in the elementary course in mathematics. There is no reason why this should not be enlarged to the point of including a good deal of material that is ordinarily presented in geometry. In other words, the work in mathematics will gradually but certainly be worked over so as to articulate very much more intimately the work of the elementary school with that of the high school. There will ultimately be no break which has to be bridged over by the study of high-school mathematics in the eighth grade.

There are two eighth-grade subjects which are not fully dealt with in the preceding paragraphs. These are history and geography. A certain amount of history is commonly taught in the eighth grade. There is also a completion of the work in geography. If these two subjects are entirely omitted, the elementary course is likely to be incomplete, and if, on the other hand, they are carried up into the high school, they raise a number of questions which are not commonly understood by first-year teachers of the high school. Thus we find very few high-school classes which have any general geography. This practice, however, of completing geography in the elementary school is peculiar to the United States. If one visits European institutions one finds that geography is a respectable science which has its place in university classes and in the upper years of the secondary schools. There is no reason at all why we should not consider as part of our American readjustment the problem of putting into the high school a certain amount of geography. Indeed, such a change in the high-school course is advocated in many meetings of teachers of science. If the history taught in higher institutions is to be made intelligent, it is very clear that there ought to be some review of the geography which has been studied in the elementary school. At the present time the geography which finds its place in some high-school courses is a form of physical geography, strictly related to the science of geology. That there should be some general earth

science in the high school is recognized widely enough to command serious attention, and the suggestion which ought to be carried out in some form or other is that there is such a readjustment of the elementary-school geography that there shall be no loss to the individual pupil from the ultimate omission of the present eighth-grade course.

Again, with regard to history, the problem is one of general readjustment. At the present time the eighth grade in the University Elementary School is carrying on the history and geography which have been for some years usual in this grade. The result is a program which is somewhat heavier than the program of students who are doing similar work in the first year of the High School. The heavy program is an incident of readjustment, however, and will probably be avoided in the future.

As a matter of administrative convenience, all of the readjustments which have been described above have been made without changing in any way the designations of the classes of pupils concerned. That is, up to this time the eighth grade has been continued as an elementary-school class. Children who have succeeded in doing the work in modern language, English, etc., have been passed into the second year of the High School, and there have been allowed to go forward with high-school work, taking advanced credits for the work which they did in the Elementary School.

There is no final reason why the first year of the High School should be circumvented in this way rather than that the eighth grade be abolished. Indeed, there are many reasons why it would be advantageous to omit the eighth grade and allow the children to begin their work with the regular course of the High School. It is planned for next year that the eighth grade shall be entirely omitted. The seventh-grade children will be promoted directly into the first year of the High School, and will carry on the work which is this year being done in the eighth grade, in the first-year class of the High School. This decision needs perhaps to be defended in detail. The purely local considerations are of no great importance. It is essential that the question be faced in some general form. In the effort to deal in a general way with the whole

matter, considerations of the following type are of importance. Is the eighth grade in its organization and in its method of conduct of work more like the high-school class or more like the general elementary course? Do the students gain any social and personal advantages by being classified as high-school students, which they would miss if they continued to be members of the elementary school?

The considerations which led the officers of the University schools to decide on the abolition of the eighth grade are as follows: First of all, the general departmental type of work which has been carried on for years in the eighth grade is of the high-school type. Students have been brought into contact with special teachers for each of the subjects in the upper grades, and this type of instruction seems to give the highest degree of efficiency. The student is mature enough so that he is not crippled by his lack of continuous contact with his instructor. Furthermore, this departmental type of organization makes it possible to defer in some degree to the special needs of the individual child. It is possible, in other words, to introduce some elective opportunity which will differentiate the course and adjust it somewhat more readily to the interests of the individual. Sometimes a child falls behind in a single subject. If the elementary type of organization continues, it is extremely difficult to carry him forward in his other subjects because of this single deficiency, whereas in the high school a deficiency in a single subject is not very serious for the general organization of the student's program. Apart therefore from the general advantages of election there is the possibility of adjusting the student's work in detail, and this adjustment is more readily carried on under the formula of high-school instruction than it is under the general formula of elementary organization. Indeed, the upper grades are even now, although they remain in the elementary schools, taking on the freer form of organization which makes election possible.

Again there are many considerations which tend to attach the children of the upper years of the elementary school to the adolescent group as distinguished from the elementary group. A general social consciousness and a desire for the simpler forms of social life which are known in the high school and are cultivated

by adolescent children, begin to appear in students of the eighth grade. There is no reason at all why such students should not, under careful supervision, be allowed to share in some of the larger liberties which are accorded to high-school students as distinguished from students in the elementary school. The interest that is aroused in the minds of these students who are just beginning to realize their social opportunities and obligations is also a distinct advantage in stimulating them to do better and more elaborate work. They can be thrown on their own responsibility with more definite consciousness on their own part and on the part of the teacher, that they are to be held responsible for their own conduct and for their social organization. They can be relied upon to organize more fully their home work. They can be appealed to in a variety of ways because of the classification which is accorded to them, whereas if they were continued in the elementary school they would feel on the whole more dependent than they do as members of the high-school community.

From the point of view of the instructorial organization also, it is doubtless advantageous for the students to be classified in the high school. They come in contact more frequently with men, and this is a distinct advantage, especially for the boys.

The question immediately arises whether this process of economy and condensation can legitimately be carried a step farther than it has been carried in the University Elementary School.

In reply to the question thus raised, it may be said that the effort of the Elementary School has not been in this case to work out to its final stages the whole experiment of readjustment. The effort which has attracted the attention and interest of the officers of the University schools up to this point is the effort to co-ordinate the work of the two schools. It is a mere accident that a single grade, rather than a grade and a half, has been eliminated as a result of this experiment. Perhaps the condensation of the course can go farther. It is the judgment of those who are in closest contact with this experiment that it is probably not desirable to attempt to reduce any further the time spent on the subjects discussed up to this point. If there is lack of economy in the High-School organization from this point on, that lack of

economy can probably be corrected most advantageously by a fusion between the High School and the Junior College similar to that which has been worked out between the Elementary School and the High School. Whether or not the seventh grade should be classified with the High School or the Elementary School is another question not to be confused with the question of economy. That detail of organization may or may not be worked out by reducing the Elementary School to a six-year school. The work which is now done in the seventh grade will undoubtedly have to be done somewhere, and in much the same form in which it is now done. If that can be carried on better by High-School officers and under the classification of the students in the High School, there is certainly no objection to this new type of organization. If this change in the classification of the seventh grade were made, no such opportunity for further economy of time and energy on the part of pupils as that which has been recognized in the present readjustment of the University Elementary School is likely to be discovered. From the point of view therefore of economy, the present experiment may be regarded as fairly closed. From the point of view of the possible reorganization of the Elementary School, the present experiment does not aim to be at all definitive. It may be desirable to work over this organization much more completely than it is worked over at the present time, but any such administrative readjustment of the Elementary School and the High School will in no wise affect the conclusion of the present experiment. One year has been saved. Whatever the classification, or whatever the type of organization ultimately adopted, this saving of a single year is a definite and final economy which will operate to the advantage of the student, whatever the form of organization through which he passes.

The suggestion has been offered above that a similar economy can be effected in the High School. This is not the proper place in which to discuss this economy, but it cannot be repeated with too great emphasis that the failure to recognize the possibilities of economy usually grows out of the fact that two different institutions are organized under different managements and with different faculties. The one great virtue of this particular experi-

ment is that it calls attention to the fact that a conference between teachers who have to deal with the same children will very frequently bring out opportunities of economy that would be entirely lost sight of if these conferences were not held. It is also to be noted that the children feel, somewhat vaguely perhaps, this lack of economy. Indeed, it is frequently true that the lack of enthusiasm on the part of the children is the best possible indication that the school organization is defective. That teachers should be slow to discover the significance of these symptoms that appear in the listless children who refuse to be enthusiastic about reviews is simply another indication of the necessity of a careful and complete survey of the work of every instructor, giving him an opportunity to place his own individual task in the general light of all the educational activities which surround his own individual work. The eighth-grade teacher may have done his work conscientiously, but until he recognizes that it is his duty to carry the children forward as far as it is possible for them legitimately to go, he has not done his whole duty. This full duty may carry him into the domain of the high school. This should not deter him from the utmost efforts to economize the time of the pupils. The gravest menace to our school organization is that which grows out of the fact that all work of one type is terminated at the end of the eighth grade, and begins anew in an entirely different environment and with an entirely different set of officers in the first year of the high school. To transcend these limitations of institutional organization is one of the opportunities of the teacher who recognizes the fact that economy of the children's energy and time is more significant than any of the traditions of present-day school organization.

OBSERVATIONS CONCERNING THE ORGANIZATION OF SCHOOLS AND CERTAIN PHASES OF EDUCATIONAL WORK IN GERMANY. III

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REFORM OF SCHOOL SYSTEMS

In all discussions concerning school reforms two leading ideas constantly recur and are emphasized by educators of the foremost rank.

First, the *growing necessity of raising the efficiency of the individual*, because the development of modern life, especially of the industrial conditions, makes excessive demands upon the nations who are leaders in culture and human progress, and because no people can hope to retain its place in the march of civilization or to attain supremacy in culture, unless all educational factors are so modified and intensified as to give each individual that training which will lead to the fullest development of which his innate powers are capable.

The second idea depends upon the first. If every individual is to be educated to greatest efficiency, *elementary school systems*, schools, and classes *must be organized and graded according to the mental and physical ability of pupils*. This ability varies greatly in children of the same age on account of the inherited mental and physical endowment; and these innate variations are increased, especially in large cities, by the numerous and divers economic and social conditions surrounding the children, and by the constant shifting of the population.

The failure that resulted from attempting to teach pupils of such widely different powers together in one class caused the *reconstruction of school systems on the basis of differentiation of pupils according to their ability*. These systems are so organized that they comprise: (1) schools for pupils of average ability; (2) schools for pupils who have failed to do the regular grade work; (3) schools for backward children (*Hilfsschulen*); (4) schools for pupils who

have shown unusual ability, diligence, and moral conduct; (5) a school for feeble-minded pupils.

The separation of feeble-minded children in institutions and of backward children in *Hilfsschulen* had been so long established and the resulting benefits were so apparent, that the above-mentioned further steps in the classification of the so-called normal children easily suggested themselves.

Some of the most progressive cities in Germany have succeeded in carrying this educational reform to a high degree of perfection and educators throughout Germany are discussing the system and its possible improvements and modifications most seriously. Men of the highest rank and of international reputation, as Professor Rein of Jena, regard this organization as fundamental for all future uplift of popular education.

While there are variations in details of execution in various cities, the organization of the Mannheim public schools may be considered a model of its type and will therefore be briefly discussed.

The elementary schools (*Volksschulen*) of Mannheim were attended last year by 22,677 pupils, which number does not include the pupils who attended the higher elementary schools (*Bürgerschulen*, tuition fee charged) nor the pupils of the higher types of schools.

It should be distinctly understood that the organization here to be outlined is that of the lowest class of schools, the free elementary *Volksschule*.

The city is divided into six school districts, each containing six schools. One or two of these schools in each district are central schools where all pupils of that district who are members of the special system of classes to be mentioned are brought together.

The pupils who are able to pursue the prescribed course of study with success are promoted through eight grades and form the *main system*. The membership of these classes is *45 pupils*.

Those who are unusually backward are transferred to the school for the feeble-minded or to the *Hilfsschulen*, the latter being organized in some of the central district schools. These special help schools have before been described; the *membership of each class is from 14 to 18 pupils*.

The weaker pupils of the main system who have not reached the aim of the class and fail of promotion because of lack of ability, sickness, laziness, or other cause, are transferred to special classes called *Förderklassen*. These are also centralized and organized in one of the buildings of each school district. The *membership of these classes is 30 pupils*, and the system consists naturally of seven grades, the lowest containing the pupils of the first grade of the main system who could not do the grade work satisfactorily in a year.

This system of *Förderschulen* was composed last year of 93 classes with 2,764 pupils, an average of nearly 30 pupils to the class. On account of the small number of children in each class the opportunity of giving them individual attention is considerably increased, and it was originally expected by the advocates of this system that pupils could be so trained in these special classes that they might be promoted to the higher *main* class at the end of the year. The superintendent of the Mannheim schools, Dr. Sickinger, the chief promoter of this reform, was an ardent believer in the doctrine that these slower pupils could be advanced to a degree that would enable them to keep step with the pupils of the regular classes. Experience has, however, definitely demonstrated that conditions which are beyond the reach of the teachers render such success impossible. Only 131 of the 2,764 could be promoted to the higher grades of the *main* system, 125 failed completely, while the great body of about 2,500 were promoted to the next higher class within the same system. Dr. Sickinger reports in regard to this experience that—

> It *again* shows that the majority of the pupils [of the *Förder* system] is merely able to progress *within this system*, and that a small number (125), in spite of the improved conditions, could not even succeed in this. Certainly it is evident that the attainment of the requirements of the regular course of study is *a matter of impossibility* for the pupils of the *Förderschulen*. As the result of this conviction, the preparation of a *special course of study* adapted to the needs of these schools has become a necessity.

The considerations that led to the establishment of a special system of *Förderklassen* parallel to the regular schools have more recently resulted in a separation of the best pupils of the four upper grades of the main system, and to the organization of these classes

of select pupils into schools. This reform logically followed from the application of the fundamental idea of the Mannheim system that "all educational agencies must be adapted to the individual capacity of the pupil." Since special schools, special courses, and special teaching had been found just and beneficial for various types of children *below* average ability, it was only fair to make special provision for the more extensive and intensive training of those children who surpass the average pupils of the regular classes in mental endowment, vigor, diligence, and moral conduct.

Those children who have given evidence of these qualifications during the first four years of their school life are admitted to these special schools and receive in the four upper grades the same instruction that is given in the higher elementary schools (the *Bürgerschulen*). It is evident that rapid progress and thoroughness of work is possible in these classes composed of the best pupils selected from a number of the surrounding district schools. The course of study for these select schools is enriched by increasing the subject-matter in arithmetic and geometry, in elementary physics, chemistry, and nature-study, and by the addition of four hours of French each week.

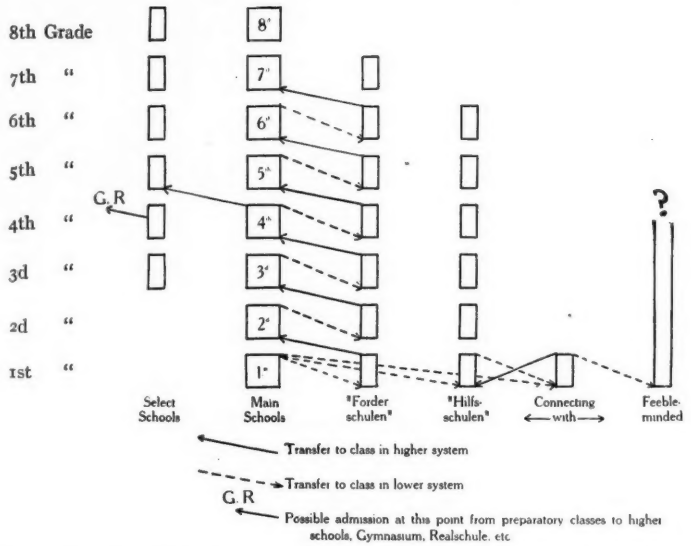
The *select pupils* of the fifth grades are taught in their respective schools, but those of the sixth, seventh, and eighth grades are brought together from a larger territory and are formed into classes that are *organized into schools in centrally located buildings*.

It is only fair to mention here that while the other features of the Mannheim system have found general recognition, the practice of removing the best from the less gifted pupils of a class is a matter of question much debated in educational circles of Germany.

The horizontal differentiation of pupils of the same grade in the Mannheim elementary schools and the resulting interrelations of the four parallel systems described above are synoptically expressed in the scheme shown on p. 291. This system can easily be varied to suit local conditions, and other cities have introduced it with such modifications. The results obtained have been declared very satisfactory by government inspectors and educators of rank.

Wonders cannot be worked by any system, but proper organization can supply such conditions that permit placing children

where the instruction, the subject-matter, and all other educational factors are adapted to their ability. While these arrangements are in themselves of great benefit to the pupils, they prepare the way for another great advantage that cannot be overrated. The teacher is relieved of much strain and anxiety and saves much



nervous energy by the exclusion of those pupils who are not properly members of his group and who are a burden to him and to his class. The improved conditions reduce the chances of irritation and consequently conserve the energy and enhance the cheerfulness of the teacher; and cheerfulness is fundamental to an educator's success.

Differentiation of pupils according to ability and centralization of differentiated classes to form schools of their kind are the keynotes of the success of this system.

CONTINUATION SCHOOLS

One of the greatest achievements in popular education in Germany is the extensive, systematic, and thorough provision for

the continued training of boys and young men while they are employed in various trades and occupations. This training tends to raise the general efficiency of the young generation and is one of the factors of the surprising cultural and industrial progress of Germany. These schools are of various types and cover the whole field of industrial activity; they are in operation from early morning till night and even on Sunday. The simplest type is the obligatory continuation school that must be attended by all boys till they are at least seventeen years of age. From a somewhat extended district the boys are gathered and formed into classes according to their trade and at the same time according to their previous preparation. In the Berlin schools about one thousand classes with thirty thousand students were in operation last year in this type of school alone. Each class contains members of a certain trade only and the variety of occupations represented is very great. There are classes for bricklayers, masons, painters, carpenters, machinists, blacksmiths, tinsmiths, coppersmiths, precision mechanics, electro-mechanics, goldsmiths, tailors, bakers, confectioners, cooks, waiters, chimney-sweepers, and others. Among them were 149 classes of commercial apprentices with an attendance of 4,416.

The particular trade of the members of the class forms the basis and center of all instruction. While the work must of necessity have a cultural effect, it is planned to be of practical utility. All classes are taught the rights and duties of citizenship. The course comprises three years, in some places even four years. Each class attends school from six to nine hours a week, *not* in the evening but *during regular business hours*. At the beginning of a semester, the time for each class is fixed and the employers are notified. The apprentices are excused by their employers regularly and without fail. Sufficient time must be allowed them to go home and get ready for school, as they are expected to appear in class clean in person and dress. Attendance and deportment at these schools are very satisfactory. The discipline presents little difficulty as the teachers are efficient disciplinarians and are effectively supported and protected by law.

There was at first opposition to these *day* continuation schools

on the part of employers, as these were unwilling to lose the services of their apprentices so many hours a week, but the increased efficiency and skill of the boys resulting from the training received at school gradually silenced the opposition, and now the great value of these schools is so generally recognized that the combined efforts of the government, the employers, and the educators are turned to the problems of highest practical efficiency.

The continuation schools for girls reinforce and broaden the training which the girls have received in the elementary schools, and are intended specially "to give intellectual stimulation toward gaining a serious view of life and to foster the desire and skill for woman's work." Besides the fundamental branches, the following subjects are taught: bookkeeping, commercial correspondence, commercial geography, typewriting, shorthand, drawing, designing, French, English; ironing, repairing of clothing, sewing, machine sewing, machine embroidering, cutting of undergarments, dressmaking, artistic fancy work, cooking, hygiene, dietetics, gymnastics, and singing. Special continuation schools are established for mentally backward youths and girls, for the deaf, and for the blind.

For ambitious young people schools of a higher type are in operation. In these the students may elect to study branches, or do practical work, not taught at the obligatory schools. Most of these secondary schools are evening and Sunday schools, and *all are crowded with students, although attendance at these schools does not exempt the student from the regular work in the obligatory schools.* The commercial schools of this type teach all the advanced commercial branches including commercial law, political economy, English, French, Italian, Spanish, and Russian.

[*To be continued*]

ANALYSIS OF COLBURN'S ARITHMETICS. V

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Colburn's treatment of percentage, interest, etc., is perhaps typical of his attitude toward the applications of arithmetic. On p. 28 of the *Sequel*, in sec. VII, on multiplication, this paragraph is given immediately preceding the first problem on interest:

Interest is a reward allowed by a debtor to a creditor for the use of money. It is reckoned by the hundred, hence the rate is called so much per cent or per centum. *Per centum* is Latin, signifying by the hundred. 6 per cent signifies 6 dollars on a hundred dollars, 6 cents on a hundred cents, £6 on £100, etc., so 5 per cent signifies 5 dollars on 100 dollars, etc. Insurance, commission, and premiums of every kind are reckoned in this way. Discount is so much per cent to be taken out of the principal.

Colburn evidently considers this sufficient explanation for such problems as the following, for he gives nothing additional either here or in Part II.

44. What is the interest of $43.00 for 1 year at 6 per cent?

47. What is the interest of $247.00 for 3 years at 7 per cent?

49. I imported some books from England, for which I paid $150.00 there. The duties in Boston were 15 per cent, the freight $5.00. What did the books cost me?

53. A merchant bought a quantity of goods for 243 dollars, and sold them so as to gain 15 per cent; how much did he gain, and how much did he sell them for?

The next mention of percentage is on p. 77, sec. XXIV. This problem is given:

119. A merchant sold a quantity of goods for $273.00, by which he gained 10 per cent on the first cost. How much did they cost?

Following the problem, is this note:

Note.—10 per cent is 10 dollars on a 100 dollars, that is, $\frac{10}{100}$. 10 per cent of the first cost therefore is $\frac{10}{100}$ of the first cost. Consequently $273.00 must be $\frac{110}{100}$ of the first cost.

A little farther on in the list we find the following problems and notes:

122. A merchant sold a quantity of goods for $983.00, by which he lost 12 per cent. How much did the goods cost and how much did he lose?

Note.—If he lost 12 per cent, that is $\frac{12}{100}$, he must have sold for $\frac{88}{100}$ of what it cost him.

124. A merchant sold a quantity of goods for $87.00 more than he gave for them, by which he gained 13 per cent of the first cost. How much did the goods cost him, and how much did he sell them for?

Note.—Since 13 per cent is $\frac{13}{100}$, $87.00 must be $\frac{13}{100}$ of the first cost.

130. A man having put a sum of money at interest at 6 per cent, at the end of 1 year received 13 dollars for interest. What was the principal?

Note.—Since 6 per cent is $\frac{6}{100}$ of the whole, 13 dollars must be $\frac{6}{100}$ of the principal.

132. A man put a sum of money at interest for 1 year, at 6 per cent, and at the end of the year he received for the principal and interest 237 dollars. What was the principal?

Note.—Since 6 per cent is $\frac{6}{100}$, if this be added to the principal it will make $\frac{106}{100}$, therefore $237 must be $\frac{106}{100}$ of the principal. When interest is added to the principal the whole is called the *amount.*

133. What sum of money put at interest at 6 per cent will gain $53 in 2 years?

Note.—6 per cent for 1 year will be 12 per cent for 2 years, 3 per cent for 6 months, 1 per cent for 2 months, etc.

138. Suppose I owe a man, $287 to be paid in one year without interest, and I wish to pay it now; how much ought I to pay him, when the usual rate is 6 per cent?

Note.—It is evident that I ought to pay him such a sum, as put at interest for 1 year will amount to $287. The question therefore is like those above. This is sometimes called *discount.*

Later in the sections on decimal fractions, special methods for interest are given in the same way, i.e., by means of a note following a problem which calls for a special method.

EDUCATIONAL PRINCIPLES RECOGNIZED. THE INDUCTIVE METHOD

In the titles of both his arithmetics,[1] Colburn explicitly states that the method of presentation is inductive rather than deductive. We have already alluded to the instruction of Colburn's time as being a drill in the manipulation of written symbols as opposed to oral instruction which he introduced. This "old system" was also deductive. The rule was given to the pupil in the beginning and he was expected to interpret it and apply it to problems. In

[1] The full titles of the texts in the later editions are: *First Lessons, Intellectual Arithmetic upon the Inductive Method of Instruction,* and *Arithmetic upon the Inductive Method of Instruction: Being a Sequel to Intellectual Arithmetic.* These titles are taken from editions of 1847 and 1828 respectively. Even his algebra has the title, *An Introduction to Algebra upon the Inductive Method of Instruction.*

some of the better texts the rule was followed by two or three problems worked by the rule and explained. The presentation of division quoted from the *Scholar's Arithmetic* on p. 31 is a typical illustration of the deductive method.

The inductive method which Colburn presented is the reverse of this. The way in which he develops the topics of arithmetic may be illustrated by his development of division in the *Sequel.*

In Part I, p. 32, he begins division with these problems:

1. How many oranges, at 6 cents apiece, can you buy for 36 cents?

2. How many barrels of cider, at 3 dollars a barrel, can be bought for 27 dollars?

3. How many bushels of apples, at 4 shillings a bushel, can you buy for 56 shillings?

4. How many barrels of flour, at 7 dollars a barrel, can you buy for 98 dollars?

5. How many dollars are there in 96 shillings?

The table of English money is given following problem 5, and the list is continued with problems of this type. These problems are such that the pupil probably was able to solve the first ones intuitively. The list consists of 128 problems of gradually increasing difficulty. The last 22 only are abstract and they are intended simply for drill.

In Part II, p. 142, which is to be studied with Part I, we find:

A boy having 32 apples wished to divide them equally among 8 of his companions; How many must he give them apiece?

If the boy were not accustomed to calculating, he would probably divide them, by giving one to each of the boys, and then another, and so on. But to give them one apiece would take 8 apples, and one apiece again would take 8 more, and so on. The question then is, to see how many times 8 may be taken from 32; or, which is the same thing, to see how many times 8 is contained in 32. It is contained four times. *Ans.* 4 each.

A boy having 32 apples was able to give 8 to each of his companions. How many companions had he?

This question, though different from the other, we perceive, is to be performed exactly like it. That is, it is the question to see how many times 8 is contained in 32. We take away 8 for one boy, and then 8 for another, and so on.

A man having 54 cents, laid them all out for oranges, at 6 cents apiece. How many did he buy?

It is evident that as many times as 6 cents can be taken from 54 cents, so many oranges can he buy. *Ans.* 9 oranges.

A man bought 9 oranges for 54 cents; how much did he give apiece?

In this example we wish to divide the number 54 into 9 equal parts, in the same manner as in the first question we wish to divide 32 into 8 equal parts. Let us observe, that if the oranges had been only one cent apiece, nine of them would come to 9 cents; if they had been 2 cents apiece, they would come to twice nine cents; if they had been 3 cents apiece, they would come to 3 times 9 cents, and so on. Hence the question is to see how many times 9 is contained in 54. *Ans.* 6 cents apiece.

In all the above questions the purpose was to see how many times a small number is contained in a larger one, and they may be performed by subtraction. If we examine them again we shall find also, that the question was, in the two first, to see what number 8 must be multiplied by, in order to produce 32; and in the third, to see what the number 6 must be multiplied by, to produce 54; in the fourth, to see what number 9 must be multiplied by, or rather what number must be multiplied by 9, in order to produce 54.

The operation by which questions of this kind are performed is called *division.* In the last example, 54, which is the number to be divided, is called the *dividend;* 9, which is the number divided by, is called the *divisor;* and 6, which is the number of times 9 is contained in 54, is called the *quotient.*

Mr. Colburn then goes on to tell how to prove division and following this takes up the case when the combination is not one that has occurred in the multiplication table.

At 3 cents apiece, how many pears may be bought for 57 cents?

It is evident that as many pears may be bought, as there are 3 cents in 57 cents. But the solution of this question does not appear so easy as the last, on account of the greater number of times which the divisor is contained in the dividend. If we separate 57 into two parts it will appear more easy.

$$57=30+27$$

We know by the table of Pythagoras[1] that 3 is contained in 30 ten times, and in 27 nine times, consequently it is contained in 57 nineteen times, and the answer is 19 pears.

This same method is explained for four more problems in which he points out how the breaking up of the dividend may be determined. He then continues:

It is not always convenient to resolve the number into parts in this manner at first, but we may do it as we perform the operation.

In 126 days how many weeks?

[1] Multiplication table.

Operation

126=70+56 Instead of resolving it in this manner, we will write it down as follows:

Dividend 126 (7 Divisor

70	
56	10
56	8
	18 quotient

I observe that 7 cannot be contained 100 times in 126, I therefore call the two first figures on the left 12 tens or 120, rejecting the 6 for the present. 7 is contained more than once and not so much as twice in 12, consequently in 12 tens it is contained more than 10 times and less than 20 times. I take 10 times 7 or 70 out of 126, and there remains 56. Then 7 is contained 8 times in 56, and 18 times in 126. *Ans.* 18 weeks.

From this the development is continued through four more problems, the last only being abstract and having a divisor of five digits. The rule is then stated, the last thing in the section.

MOTIVATION

The development of a motive by means of problems which especially appeal to children and by causing the child to feel a need for the process or definition before it is given to him is an important feature of both texts. The types of problems are well illustrated by those already given.

A feeling of need for the process is created by introducing each topic by problems. The very plan of dividing the texts into two parts and thus separating the problems from the development of the principles operates to create motive for the study of the principles. Even in the development of the principles, the rules are not stated until after the explanation of the operation which is itself based upon a problem. Whatever drill seems necessary is not given until after a considerable number of problems have been solved by the pupil. Colburn clearly states his attitude toward rules. He says:

> To succeed in this (i.e., teaching arithmetic to children), however, it is more necessary to furnish occasions for them to exercise their own skill in performing examples, rather than to give them rules.

But even these devices do not represent all that Colburn has done to motivate the arithmetic work. His style of writing and

his ability to see things from the child's point of view assist materially in this respect. But the way he guides the learner in the development of the principles adds a touch of genius to the whole work. The following is from the *Sequel*, p. 168:

A boy wishes to divide $\frac{3}{4}$ of an orange equally between two other boys; how much must he give them apiece?

If he had 3 oranges to divide, he might give them 1 apiece, and then divide the other into two equal parts, and give one part to each, and each would have $1\frac{1}{2}$ orange. Or he might cut them all into two equal parts each, which would make six parts, and give 3 parts to each, that is, $\frac{3}{2}=1\frac{1}{2}$, as before. But according to the question, he has $\frac{3}{4}$ or 3 pieces, consequently he may give 1 piece to each, and then cut the other into two equal parts, and give 1 part to each, then each will have $\frac{1}{4}$ and $\frac{1}{2}$ of $\frac{1}{4}$. But if a thing be cut into four equal parts and then each part into two equal parts, the whole will be cut into 8 equal parts or eighths; consequently $\frac{1}{2}$ of $\frac{1}{4}$ is $\frac{1}{8}$. Each will have $\frac{1}{4}$ and $\frac{1}{8}$ of an orange. Or he may cut each of the three parts into two equal parts, and give $\frac{1}{2}$ of each part to each boy, and then each will have 3 parts, that is $\frac{3}{8}$. Therefore $\frac{1}{2}$ of $\frac{3}{4}$ is $\frac{3}{8}$. *Ans.* $\frac{3}{8}$.

Two more problems are similarly explained, though somewhat more briefly. He then draws a conclusion as follows:

In the last three problems the division is performed by multiplying the denominator. In general, if the denominator of a fraction be multiplied by 2, the unit will be divided into twice as many parts, consequently the parts will be only one half as large as before, and if the same number of the small parts be taken, as was taken of the large, the value of the fraction will be one half as much. If the denominator be multiplied by three, each part will be divided into three parts, and the same number of parts be taken, the fraction will be one third of the value of the first. Finally if the denominator be multiplied by any number, the parts will be so many times smaller. Therefore, *to divide a fraction, if the numerator cannot be divided exactly by the divisor, multiply the denominator by the divisor.*

In the above illustration and also the development of division which we have already quoted, Colburn takes as his point of departure a crude, intuitional way of handling the problem. This way is one which the pupil would probably discover for himself. It is only after he has presumably found this way rather cumbersome that a shorter way and rule are given to him. On just this point Colburn makes clear his attitude in the preface of the *Sequel:*

When the pupil is to learn the use of figures for the first time, it is best to explain to him the nature of them as in Art. I, to about three or four places; and

then require him to write some numbers. Then give him some of the first examples as in Art. II, without telling him what to do. He will discover what is to be done, and invent a way to do it. Let him perform several in his own way, and then suggest some method a little different from his, and nearer the common method. If he readily comprehends it, he will be pleased with it, and adopt it. If he does not, his mind is not yet prepared for it, and should be allowed to continue his own way longer, and then it should be suggested again. After he is familiar with that, suggest another method, somewhat nearer the common method, and so on, until he learns the best method. Never urge him to adopt any method until he understands it, and is pleased with it. In some of the articles, it may perhaps be necessary for young pupils to perform more examples than are given in the book.

When the pupil is to commence multiplication, give him one of the first examples in Art. III, as if it were an example in Addition. He will write it down as such. But if he is familiar with the "First Lessons," he will probably perform it as multiplication without knowing it. When he does this, suggest to him, that he need not write the number but once. Afterwards recommend to him to write a number to show how many times he repeated it, lest he should forget it. Then tell him it is Multiplication. Proceed in a similar manner with the other rules.

One general maxim to be observed with pupils of every age is never to tell them directly how to perform any example. If a pupil is unable to perform an example, it is generally because he does not fully comprehend the object of it. The object should be explained, and some questions asked, which will have a tendency to recall the principles necessary. If this does not succeed, his mind is not prepared for it, and he must be required to examine it more by himself, and to review some of the principles which it involves. It is useless for him to perform it before his mind is prepared for it. After he has been told, he is satisfied, and will not be willing to examine the principle, and he will be no better prepared for another case of the same kind, than he was before. When the pupil knows that he is not to be told, he learns to depend upon himself; and when he once contracts the habit of understanding what he does, he will not easily be prevailed on to do anything which he does not understand.

Several considerations induce the author to think, that when a principle is to be taught, practical questions should first be proposed, care being taken to select such as will show the combination in the simplest manner, and that the numbers be so small that the operation shall not be difficult. When a proper idea is formed of the nature and use of the combination, the method of solving these questions with large numbers should be attended to. This method, on trial, has succeeded beyond his expectations. Practical examples not only show at once the object to be accomplished, but they greatly assist the imagination in unfolding the principle and discovering the operations requisite for the solution.

Oral instruction and the *inductive method* are the features of Colburn's books which have received general recognition, and which were most effective in changing school practices. These two features were the essential components of the "new system" of teaching arithmetic to which Colburn makes reference in his address on the "Teaching of Arithmetic." Other features of his books have not been appreciated except by few. This is true of his concept of the subject-matter of arithmetic and its structure, the omission of certain topics, creating a motive for a process before it is presented, minimizing abstract drill and putting it after the concrete problems. Some of these things have been recognized within the past few years and others are now only beginning to be appreciated.

But, notwithstanding this failure to appreciate certain features, sufficient recognition was accorded oral instruction and the inductive method to change within a very few years both the actual teaching of arithmetic and the contemporary texts. The *Scholar's Arithmetic* by Daniel Adams has been cited as an example of the old type of text. In 1827 Mr. Adams published *Adams' New Arithmetic*. In the preface he says:

> The *Scholar's Arithmetic*, published in 1801, is synthetic. If that is a *fault* of the work, it is a fault of the *times* in which it appeared. The analytic or inductive method of teaching, as now applied to elementary instruction, is among the improvements of later years. Its introduction is ascribed to PESTALOZZI, a distinguished teacher in Switzerland. It has been applied to arithmetic, with great ingenuity, by MR. COLBURN, in our own country.
>
> The analytic is unquestionably the best method of *acquiring* knowledge; the synthetic is the best method of *recapitulating*, or *reviewing* it. In a treatise designed for school education, *both* methods are useful. Such is the plan of the present undertaking, which the author, occupied as he is with other objects and pursuits, would willingly have foreborne, but that, the demand for the *Scholar's Arithmetic* still continuing, an obligation, incurred by long-continued and extended patronage, did not allow him to decline the labour of a revisal, which should adapt it to the present more enlightened views of teaching this science in our schools. In doing this, however, it has been necessary to make a new work.

Speaking of the *First Lessons*, Mr. Page said in 1843 in addressing the American Institute of Instruction:

The reason, the understanding, is addressed, and led on step by step, till the whole is taken into the mind and becomes a part of it. The memory is little thought of, yet the memory cannot let it slip; for what has been drunk in, as it were, by the understanding, and made a part of the mind, the mind never forgets! To how many a way-worn and weary pupil under the old system; to how many a proficient, who could number his half dozen authors, and twice that number of manuscript cyphering books; to how many a *teacher* even, who had taught the old system, winter after winter, and yet saw but as "through a glass darkly"; to how many such, was this book on its appearance *Their First Lessons in Arithmetic?* WARREN COLBURN'S name should be written in a conspicuous place, in letters of gold, for this service.

BOOK REVIEWS

A Cyclopedia of Education. Vol. III. Edited by PAUL MONROE. New York: Macmillan, 1912. Pp. 682. $5.00.

The third volume of this important work has appeared in one year after the second volume, and a year and nine months after the first volume. The general comments which were made upon the appearance of the first volume are appropriate to this one and need not be repeated. The main criticism to be made is that a disproportionate amount of space is devoted to subjects which possess only an antiquarian interest, or which are not particularly related to education. As illustrations of the first sort of article may be cited the one and a half pages which are given to the discussion of the history of the term "high school," and the one-page treatment of the use of the term "glomery," which is merely a corruption of the word "grammar." Examples to illustrate the second type of article are found in the numerous biographies of men who had little or no special relation to education except that they were great scientists, philosophers, or literary men. Such are the articles on Galen, Galileo, and Francis Galton. With this prefatory criticism we may turn to a consideration of the more important topics which are treated in this volume.

Two groups of articles which are among the most important of any in the cyclopedia concern state and national systems of education. The most important representative of this type of article in the present volume is the article on Germany. In the compass of forty pages is given a comprehensive survey of the historical development and of the aims and spirit of German education written by the late Professor Wilhelm Münch, and surveys of the present organization of the elementary schools, the secondary schools, and the universities by men equipped to treat of those topics. The training and status of teachers, the curricula of the various schools, and statistics of attendance and of expenditures are given in detail. There are similar articles, though not so extended, upon the systems of Greece, Hungary, India, Ireland, Italy, and Japan. The article upon Japan was written by Baron Kikuchi, and is interesting as the expression of the point of view of the Japanese themselves. A similar interest attaches to the article upon the education of the American Indian.

This volume also contains a goodly number of articles which treat of the various subjects of study in the school or college. Among the longer articles appear titles on geography, geology, history, household arts, Latin, language and literature, and law. These articles commonly treat of the history of the subject in the schools, various conceptions of its value and methods of teaching it. Sometimes, as in the case of household arts, the teaching of the subject in various countries is treated separately.

Among the educational institutions which receive extended treatment are the high school and the kindergarten. An article which is particularly timely is one on industrial education, which gives in detail the forms of industrial education in vogue in the United States, England, Germany, and France. An authoritative article on growth is written by Professor Boas. This important article, however, is given only twice as much space as the article on the history of the term "high school" referred to above.

Some very interesting articles in the field of psychology deserve mention. Professor Judd has treated the genesis and development of imagination and of language in a way which throws light upon mental development in general. Professor Dewey's article on interest gives a very clear and satisfactory analysis of this much-disputed question, and the article on imitation gives clearly the point of view of his school on that subject. Professor Watson presents clearly the topics of habit and instinct.

These citations will be sufficient to indicate the value of the cyclopedia, both to the general student of education who desires brief and compendious treatment, and also in many cases to the specialist who desires the latest information or an authoritative presentation of views.

FRANK N. FREEMAN

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A Revision of the Binet-Simon System for Measuring the Intelligence of Children. By F. KUHLMANN. *Journal of Psycho-Asthenics.* Monograph Supplements. Vol. I, No. 1, September, 1912. Pp. 41+11 plates.

This is a somewhat more radical and complete revision of the Binet scale than the others which have been made by Goddard, and Terman and Childs, but is of the same general nature. The monograph contains a full description and directions for the use of the Binet scale, modified and enlarged, and an introduction which gives an account of the changes which have been made and general directions for the conduct of the test. The revision consists in the standardization of procedure, in shifting of tests from one age to another, in the elimination of certain tests and the addition of others, and in the extension of the scale so as to be applicable to younger children. All of the figures which are necessary in the use of the scale are given in plates, and a list of other materials which are necessary is appended. The author does not give results of the application of the scale, but states that his standard for the determination of ages in which a test belongs is the ability of 75 per cent of the children of that age to pass the test. The monograph is useful as an attempt to make the Binet tests more accurate, but does not proceed in the direction in which a test series for maturity must ultimately be worked out, namely, in the standardization of a group of the same tests which shall be applied throughout the period from early childhood to maturity, instead of a selection of miscellaneous groups of tests many of which are different for successive ages.

FRANK N. FREEMAN

School Organization and the Individual Child. By W. H. HOLMES, PH.D. Worcester, Mass.: The Davis Press, 1912.

A modern book without a table of contents gives one a shock as he attempts to make his way into its pages; such a book we have in the present volume. The chapters one after another confirm somewhat the impression which is made by this first lack of a systematic introduction. These chapters contain interesting descriptive accounts of many of the different methods that are employed in different parts of the United States to give individual instruction and individual promotion to children in elementary schools. The several plans of individual treatment of pupils are reviewed, each under the name of the city where the plan is to be found in operation. Diagrams

illustrate the way in which grades can be made to overlap and in which given devices can be employed for bringing the children into more intimate contact with individual teachers. One fails to find in these descriptive accounts any critical evaluation of the success of various experiments. It is not made clear at all that the Batavia method, for example, is better or worse than the St. Louis method. It does not appear that the Mannheim plan of grading has demonstrated advantages over the ordinary plan; and yet the author seems to have arrived, so far as his own opinion is concerned, at some very definite conclusions with regard to the way in which these various suggestions can be carried out most advantageously. He has accordingly offered suggestions for individual classification and instruction, thus summing up his own estimate of the success of the different methods, and lauding the virtues of organization which seem to him to be of the greatest advantage in the school. Such a series of suggestions will hardly influence practical school people and certainly do not appeal to the careful student of education who is demanding these days, more and more, a definite scientific study of the efficiency of different systems. Indeed, the book gives one the impression of superficiality just in the degree in which it fails to insist upon a careful evaluation of the different experiments which are discussed.

After the 197 pages of descriptive matter and suggestions of the type to which reference has been made, we reach the second division of the book, which deals with subnormal children. Nowhere in the literature of education is a better descriptive account to be found of the different efforts which are being made in this country to deal with defective children. The student of this particular problem will be encouraged to find the amount of work which can be reported for the United States along these lines. Here again, however, there is a lack of scientific evaluation of the different types of work. There is for example an account of the Binet tests and another of the after-care of cases which have been treated, which make it appear that the author has been industrious in bringing together a large amount of material, but has not been especially competent in distinguishing between the sources of his materials.

The appendices contain a number of blanks and reports which will be of interest to the student of these problems. There is also a bibliography, and finally an index, which makes it possible to use the book after one has gone through it systematically. On the whole, the book will be found very useful as a descriptive account of the various experiments which it reports. It is unfortunate that it does so little to stimulate any careful scientific investigation of the problems to which it refers.

C. H. J.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN[2]
Librarian, School of Education, University of Chicago

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[1] *Abbreviations.*—Child Wel. M., Child Welfare Magazine; Educa., Education; Educa. R., Educational Review; El. School T., Elementary School Teacher; English J., English Journal; Lit. D., Literary Digest; Psychol. Clinic, Psychological Clinic; School R., School Review; Voca. Educa., Vocational Education; West. J. of Educa., Western Journal of Education.

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